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EXAMINER

CECIL, TERRY K

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,888

Applicant(s)

WILLIAMS, EDWARD E

Examiner

Mr. Terry K. Cecil

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 13-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of the apparatus of claims 1-12 in the Paper filed 11-21-2003 is acknowledged. The traversal is on the grounds that the inventions relate to the same general inventive concept and have the same or corresponding technical features. This is not found persuasive because of the following reasons. Initially, it is pointed out that PCT Rule 13.2 requires a technical relationship among those inventions involving one or more of the same or corresponding special technical features—those features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. Otherwise unity is lacking. Applicant has amended claim 1 of the apparatus invention to require a flow control device that is configured to provide a lesser regulated flow of disinfectant through each injection device than a regulated flow of disinfectant through an injection device located upstream therefrom in order to correspond to the limitation in claim 13 of his method invention requiring the step of controlling a dosage of disinfectant to each of the plurality of dosing location wherein each dosage of disinfectant is less than a dosage of disinfectant introduced into the wastewater at a dosing location upstream thereof. The phrase “configured to...” in apparatus claim 1 is interpreted by the examiner to be synonymous with “having the structural ability to...” According to PCT Rule 13.2 in order for this technical feature to be a “special” technical feature, it must define a contribution over the prior art. In this case, as explained below, the invention of Schuk has the structural ability to “provide a lesser regulated flow of disinfectant...” Therefor, this technical feature does not define a contribution over the prior art and unity between the apparatus and method inventions is lacking. The requirement is still deemed proper and is therefore made FINAL.

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Oath/Declaration

Because of the Declaration submitted by the applicant, the objection to the Declaration of the prior office action has been withdrawn.

Drawings

Because of applicant's amendments to the specification, the drawing rejection of the prior office action has been withdrawn.

Claim Rejections - 35 USC ' 112

Because of applicant's amendments to the claims, the 112 rejections of the prior office action have been withdrawn.

Claim Rejections - 35 USC ' 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-6, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Schuk et al. (U.S. 3,760,829) as evidenced by Pressley et al. (U.S. 3,732,164), hereinafter "Pressley" (Schuk incorporates by reference the subject matter of Pressley, see col. 1, first paragraph). As shown in figure 2, Schuk discloses a system for disinfecting wastewater comprising a plurality of injectors spaced along a flow path in communication with a chlorine

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supply (the use of injectors is cited in col. 10, line 53 of Pressley). The dosing of chlorine is controlled by respective valves 9 and 15 coupled to a control system (6, 8, 11, 13, 14) [as in claims 1-2 and 4]. The control system operates the valves in response to outputs from sensors (e.g. 4, 5 and 12) [as in claim 5] and also a flow rate meter 1 [as in claim 6]. As for the limitation of the flow control device being configured to provide a lesser regulated flow of disinfectant through each injection device than a regulated flow of disinfectant through an injection device located upstream therefrom, Schuk equation $[(ABC) - F] * D = E$ (col. 5, line 65) governing the injection of the chlorine into the flow path demonstrates that such a configuration (structural capability) is inherent—the amount of chlorine injected via valve 9 is less than that injected via valve 15 (figure 2) when the additional chlorine E necessary to reach breakpoint is less than that originally added to adjust the pH (F).

As shown in figure 3 of Pressley, Schuk also discloses supplying product water as a dosing liquid to the chlorine (col. 5, lines 49-52 of Pressley)[as in claim 10].

Schuk also discloses systems where post-treatment is effected in carbon columns downstream of the chlorination (see col. 10, lines 6-61 of *Pressley*) [as in claim 12] and pre-treatment to remove lime (col. 5 lines 32-37; col. 6, line 5-7) [as in claim 11].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-2, 4-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 57-187090, hereinafter '090. As shown in figure 1, '090 discloses a system for disinfecting wastewater comprising a plurality of injectors (19, 17 and 18) spaced along a flow path in communication with a chlorine supply 16, wherein the dosing of chlorine is controlled by respective valves coupled to a controller 14 [as in claims 1-2, 4 and 7]. The control system operates the valves in response to outputs from sensors (e.g. 11, 12, 13, and 15) [as in claim 5] and also a flow rate meter 1 [as in claim 6]. '090 also teaches pretreatment in reservoir 1 and post treatment in reservoir 8 [as in claims 11-12]. '090 does not specifically teach that the control/dosing system is configured to decrease the dosed amount of chlorine for the second or third injection point, however, it is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have such a configuration depending upon the conditions of the raw wastewater inflow—including e.g. flow rate and degree of contamination [as in claim 1].

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6. Claims 3 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Schuk in view of Sarunac (U.S. 4,997,574). Claim 3 has the limitation of the passageway being defined in a contact tank and claim 9 has the limitation of each of the injection devices being a group of injectors fed by a single conduit of the conduit arrangement. As shown in figure 5, Sarunac discloses a system comprising a plurality of injection devices spaced along an elongated flow path of a contact tank for dosing chlorine thereto from a source of chlorine [as in claim 3], wherein each injector includes a group of injectors 35 feed by a single conduit [as in claim 9]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the grouped injection device and arranged in the contact of Sarunac in the invention Schuk, since Sarunac teaches the benefit of minimizing chlorine residual (a goal of Schuk) and reducing the overall amount of chlorine dosed (col. 3, lines 38-47).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schuk in view of Sarunac, as applied above, and in further view of the British Reference (1,263,916), hereinafter '916. Claim 8 has the limitation of dosing location spaced at substantially equal intervals. '916 discloses a system for disinfecting wastewater comprising a plurality of evenly spaced metering points D for injecting a disinfectant in the flow path of a paper machine [as in claim 8]. A control unit C communicates with valves (1-6) to control the dosing of disinfectant from a tank T. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the plurality of injection devices of Schuk, as modified by Sarunac, to be equally spaced, since '196 teaches the benefit of requiring substantially less slime-inhibiting substance.

Response to Arguments

8. Applicant's arguments filed 11-21-2003 have been fully considered but they are not persuasive because of the following reasons:

- Applicant has argued that Schuk is not configured to provide a lesser regulated flow of disinfectant to the downstream injection device. However, as explained above, the phrase "configured to provide" in the apparatus claims are interpreted as "structurally capable". As explained in the rejection, Schuk is inherently structurally capable as claimed since his dosing is governed by an equation permitting such a configuration when warranted by the stream conditions. Also, as shown by '090 such a configuration is obvious.
- Applicant has argued that Schuk does not teach post-treatment. However, since Pressley which teaches post treatment is incorporated by Schuk, Pressley teachings are also disclosed by Schuk.
- Applicant has not demonstrated any *structural* different between his claimed apparatus invention and that of the applied prior art.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the

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THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Contact Information:

- Examiner Mr. Terry K. Cecil can be reached at (571) 272-1138 at the Carlisle campus in Alexandria, Virginia for any inquiries concerning this communication or earlier communications from the examiner. Note that the examiner is on the increased flextime schedule but can normally be found in the office during the hours of 8:30a to 4:30p, on at least four days during the week M-F.
- Wanda Walker, the examiner's supervisor, can be reached at (571) 272-1151 if attempts to reach the examiner are unsuccessful.
- The Fax number for this art unit for official faxes is 703-872-9306.



Mr. Terry K. Cecil
Primary Examiner
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